PCN Number:	20200727001.2			**PCN Date:**	Jul 27, 2020
Title:	Qualify New Assembly Material set for CLVC3G07QDCURG4Q1 Device				
Customer Contact:	PCN Manager	**Phone:**	+1(214)480-6037	**Dept:**	Quality Services
Proposed 1st Ship Date:	Jan 27, 2021	**Estimated Sample Availability:**			Date provided at sample request

Change Type:

☐	Assembly Site	☐	Design	☐	Wafer Bump Site
☐	Assembly Process	☐	Data Sheet	☐	Wafer Bump Material
☒	Assembly Materials	☐	Part number change	☐	Wafer Bump Process
☐	Mechanical Specification	☐	Test Site	☐	Wafer Fab Site
☐	Packing/Shipping/Labeling	☐	Test Process	☐	Wafer Fab Materials
				☐	Wafer Fab Process

PCN Details

Description of Change:

Texas Instruments is pleased to announce the qualification of new assembly material set for device listed in "Product affected" section below. Device will remain in current assembly facility and piece part changes as follows:

Material	Current	Proposed
Mount compound	400151	400180

Reason for Change:

Continuity of supply.

Anticipated impact on Fit, Form, Function, Quality or Reliability (positive / negative):

None.

Anticipated impact on Material Declaration

☐	No Impact to the Material Declaration	☒	Material Declarations or Product Content reports are driven from production data and will be available following the production release. Upon production release the revised reports can be obtained from the TI Eco-Info website. There is no impact to the material meeting current regulatory compliance requirements with this PCN change.

Changes to product identification resulting from this PCN:

None

Product Affected:

CLVC3G07QDCURG4Q1

Automotive New Product Qualification Report
(Per AEC-Q100 and JEDEC Guidelines)

Qualification Results
Data Displayed as: Number of lots / Total sample size / Total failed

Test	#	Reference	Test Conditions	Min Lots (2)	SS / lot (2)	Min Total (2)	Results Lot/pass/fail	Comments: (N/A =Not Applicable)	Exceptions to AEC -Q100
TEST GROUP A – ACCELERATED ENVIRONMENT STRESS TESTS (3)									
PC	A1	JESD22 A113 J-STD-020	Preconditioning: SMD only; Moisture Preconditioning for THB/HAST, AC/UHST, TC, HTSL	Performed on ALL SMD devices, Prior to THB, AC, TC , PTC, HTSL					
THB or HAST	A2	JESD22 A101 JESD22 A110	Temperature Humidity Bias: 85°C/85% 1000 hours Highly Accelerated Stress Test: **130°C/85% 96 hours**	3	77	231	3/231/0	QBS to package and A/T data. SN74LVC2G66QDCURQ1	
AC or UHST	A3	JESD22 A102 or JESD22 A118	Autoclave: 121C / 15 PSIG, 96 hours Unbiased Highly Accelerated Stress Test:	3	77	231	3/231/0	QBS to package and A/T data. SN74LVC2G66QDCURQ1	
TC	A4	JESD22 A104	Temperature Cycle: -65°C/+150°C/ 1000 cycles Post Temp Cycle Bond Pull 3 grams minimum (30 bonds Total)	3 1	77 5	231 0	3/231/0 1/5/0	QBS to package and A/T data. SN74LVC2G66QDCURQ1	
PTC	A5	JESD22-A105	Power Temperature Cycle: -40°C to +125°C for 1000 cycles	1	45	45	N/A	Only applies to devices over 1 W	
HTSL	A6	JESD22 A103	High Temperature Storage Life: 175°C/500 hours	1	45	45	1/45/0	QBS to package and A/T data. SN74LVC2G66QDCURQ1	
TEST GROUP B – ACCELERATED LIFETIME SIMULATION TESTS (3)									
HTOL	B1	JESD22 A108	High Temp Operating Life: 150°C/408 hours	3	77	231	3/231/0	QBS to Fab process SN74LVC2G14IDCKRQ1 SN74LVC2G06QDCKRQ1	
ELFR	B2	AEC-Q100-008	Early Life Failure Rate: 125°C/ 48hours	3	800	2400	3/2400/0	QBS to Fab process SN74LVC2G14IDCKRQ1 SN74LVC2G06QDCKRQ1	
NVM Endurance, Data Retention, and Operational Life	B3	AEC Q100-005	NVM Endurance, Data Retention, and Operational Life	3	77	231		N/A	
TEST GROUP C – PACKAGE ASSEMBLY INTEGRITY TESTS (3)									
WBS	C1	AEC-Q100-001	Wire Bond Shear Test: (Ppk > 1.67 and Cpk > 1.33)	30 bonds	5 parts Min.	30 bonds	1/30/0	MQ report	
WBP	C2	Mil-Std-883 Method 2011	Wire Bond Pull: Each bonder used (Ppk > 1.67 and Cpk > 1.33)	30 bonds	5 parts Min.	30 bonds	1/30/0	MQ report	
SD	C3	JESD22 B102	Solderability: (>95% coverage) 8 hr steam age	1	15	15	1/22/0	QBS to package and A/T data. Pb free solderability	
PD	C4	JESD22 B100, JESD22 B108	Physical Dimensions: (Ppk > 1.67 and Cpk > 1.33)	3	10	30	1/30/0	MQ report	
SBS	C5	AEC-Q100-010	Solder Ball Shear: (Ppk > 1.67 and Cpk > 1.33)	50 balls	3	50		N/A to non-solder ball surface mount devices	
LI	C6	JESD22 B105 Not Required for SMT parts	Lead Integrity: (No lead cracking or breaking)	50 leads	1	50		N/A to non-solder ball surface mount devices	

TEST GROUP D – DIE FABRICATION RELIABILITY TESTS

Test	#	Reference	Test Conditions	Min Lots (2)	SS / lot (2)	Min Total (2)	Results Lot/pass/fail	Comments: (N/A =Not Applicable)	Exceptions to AEC -Q100
EM	D1	JESD61	Electromigration: (Only if de-rating required beyond design rules)	-	-	-	Passed		
TDDB	D2	JESD35	Time Dependant Dielectric Breakdown:	-	-	-		N/A	
HCI	D3	JESD60 & 28	Hot Injection Carrier	-	-	-		N/A	

TEST GROUP E- ELECTRICAL VERIFICATION

TEST	E1	User/Supplier Specification	Pre and Post Stress Electrical Test.	All	All	All		100% of qualification devices	
HBM	E2	JESD22-A114	Electrostatic Discharge, Human Body Model	1	3	3	500V 3/0 1000V 3/0 1500V 3/0 2000V 3/0		Performed per JEDEC
MM	E2	JESD22-A115	Machine Model:	1	3	3	50V 3/0 100V 3/0 150V 3/0 200V 3/0		Performed per JEDEC
CDM	E3	JESD22-C101	Electrostatic Discharge, Charged Device Model; (750V corner leads, 500V for all other leads)	1	3	3	250V 3/0 500V 3/0 750V 3/0 1000V 3/0		Performed per JEDEC
LU	E4	AEC-Q100-004	Latch-Up:	1	6	6	1/6/0		
ED	E5	AEC-Q100-009	Electrical Distributions: (Test across recommended operating temperature range) (Cpk > 1.67 , Ppk > 1.67)	1	30	30	1/30/0 25°C, 125°C, -40°C		

(1) Grade 0 (or A): -40°C to +150°C ambient operating temperature range
Grade 1 (or Q): -40°C to +125°C ambient operating temperature range
Grade 2 (or T): -40°C to +105°C ambient operating temperature range
Grade 3 (or I): -40°C to +85°C ambient operating temperature range
Grade 4 (or C): -0°C to +150°C ambient operating temperature range
(2) These are recommended minimum lot/sample sizes. Lot/sample size may be reduced depending on available data.
(3) Generic data may be used.

For questions regarding this notice, e-mails can be sent to the regional contacts shown below or your local Field Sales Representative.

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